Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Search for $B \to \nu\overline{\nu}(\gamma)$ ALESSANDRO ROSSI, Univ. Perugia and INFN Sezione di Perugia, BABAR COLLABORATION — We present a search for the decay $B \to \nu\overline{\nu}(\gamma)$ in $\Upsilon(4S) \to B\overline{B}$ decays recorded with the *BABAR* detector at the PEP-II asymmetric-energy B factory at SLAC. The Standard Model predictions for the $B \to \nu\overline{\nu}(\gamma)$ branching fractions are far from the current experimental sensitivities, but many New Physics Models predict significant enhancements. A sample of events in which one B is reconstructed in $B^0 \to D(^*)l\nu$ modes is selected, and in the recoil a search for a B decaying to purely invisible final states or to a photon plus missing energy is performed. In order to reject background a number of kinematic and shape selection criteria are used. Features of the signal signature are exploited by imposing constraints on signal variables such as track multiplicity, neutral energy and missing momentum. We describe the search techniques and provide the most recent results from *BABAR*.

Steven Robertson
IPP/McGill University

Date submitted: 16 Oct 2009 Electronic form version 1.4